

**ABSTRACT**

The invention relates to the probehead of nuclear magnetic resonance spectrometer  
5 comprising a frame, a radio frequency coil attached thereto and a rotor located inside the  
coil containing the examined sample, supported by bearings and provided with turbines at  
both ends, a source of compressed gas, an executive unit and a control unit. The  
innovative step involves using different turbines that make the rotor rotate in the same or  
in opposite directions and providing the executive unit with at least two compressed gas  
10 channels for rotor velocity control for each turbine, whereas the coil is connected to the  
inner surface of the frame with at least two, preferably four sheets of thin non-conductive  
and non-magnetic material. The rotation velocity of the probehead rotor can be controlled  
and the rotation direction reversed thereby obtaining additional information on the  
examined sample during the measuring process.